

REMARKS

Claims 1-6 and 9-14 are pending in this application. Claim 1 has been amended to recite that “the carbon source substantially consists of natural oils or fats, or fractionated oils or fats as disclosed in the paragraph bridging pages 8 and 9 of the specification. Claims 1 and 3-6 are directed to the elected invention, Claims 2 and 9-14 are directed to a non-elected invention and may be cancelled by the examiner upon the allowance of the claims directed to the elected invention. The amendments to the claims do not introduce any new matter.

Claims 1 and 3-6 were rejected under 35 U.S.C. §103(a) as being unpatentable over Japanese Patent Application No. 2001/340078 to Satoshi et al. (hereinafter also referred to as “Satoshi”) in view of International Publication No. WO 96/25509 to Naylor et al. (hereinafter also referred to as “Naylor”). The cited references do not render obvious claims 1 and 3-6.

The present invention relates to using microorganisms which make it possible to produce a copolyester that contains 3-hydroxyhexanoic acid units whereby the specific substrate feed rate is controlled. By controlling the specific substrate feed rate, the monomer composition of the copolyester can be adjusted without using additional fatty acid as a carbon source, and also without altering the composition of the carbon source. Since fatty acids such as propionic acid are expensive, the method of the present invention is very economical and advantageous from an industrial viewpoint.

As appreciated by the Examiner, JP2001-340078 to Satoshi differs from the present invention in that it does not teach keeping the specific substrate feed rate of the carbon source at a constant value.

As noted above, claim 1 has been amended to clarify the carbon source employed according to the present invention.

It is pointed out in the Office Action that JP2001-340078 describes controlling the molar ratio of 3HH(3-hydroxyhexanoic acid). However, the method suggested therein requires altering

the composition of the carbon source and at least two different carbon sources, and employs a fatty acid.

W0 96/25509 refers to an average oil uptake ratio, but requires a fatty acid such as propionic acid in order to produce a copolyester. A fatty acid was essential to produce a copolyester by the microorganism in Naylor et al., as pointed out in our previous responses. Even based on these references, persons skilled in the art would not expect with any reasonable degree of predictability that the monomer composition of the copolyester can be adjusted by the method of the present invention.

In addition, the purpose of Naylor et al. was to avoid toxicity. Average oil uptake ratio in Naylor et al. has nothing to do with controlling the monomer ratio of the copolyester. It should be noted that Naylor et al. only suggest production of PHSV as a copolyester, and they do not teach a copolyester comprising 3HH. This is in contrast to the microorganism of the present invention where a fatty acid is not essential to produce a copolyester, and the copolyester comprises 3HH. Therefore, Naylor et al. do not suggest or imply that by adjusting oil uptake ratio, the monomer composition of poly(3HB-co-3HH) can be controlled.

The mere fact that the cited art may be modified in the manner suggested in the Office Action does not make the modification obvious, unless the cited art suggests the desirability of the modification or adequate rationale exists to do so. No such suggestion appears in the cited art in this matter nor has the requisite rationale been adequately articulated. . The Examiner's attention is kindly directed to *KSR Int'l Co. v. Teleflex, Inc.*, 127 S. Ct. 1727 (2007); *In re Lee* 61 USPQ2d 1430 (Fed. Cir. 2002), *In re Dembiczak et al.* 50 USPQ2d. 1614 (Fed. Cir. 1999), *In re Gordon*, 221 USPQ 1125 (Fed. Cir. 1984), *In re Laskowski*, 10 USPQ2d. 1397 (Fed. Cir. 1989) and *In re Fritch*, 23, USPQ2d. 1780 (Fed. Cir. 1992).

Also, the cited art lacks the necessary direction or incentive to those of ordinary skill in the art to render a rejection under 35 USC 103 sustainable. The cited art fails to provide the degree of predictability of success of achieving the properties attainable by the present invention as discussed above needed to sustain a rejection under 35 USC 103. See *KSR Int'l Co. v.*

Teleflex, Inc., supra; *Diversitech Corp. v. Century Steps, Inc.* 7 USPQ2d 1315 (Fed. Cir. 1988), *In re Mercier*, 187 USPQ 774 (CCPA 1975) and *In re Naylor*, 152 USPQ 106 (CCPA 1966). As discussed above, the improved solubility is not suggested by the cited art.

Moreover, the properties of the subject matter and improvements which are inherent in the claimed subject matter and disclosed in the specification are to be considered when evaluating the question of obviousness under 35 USC 103. See *KSR Int'l Co. v. Teleflex, Inc.*, supra; *Gillette Co. v. S.C. Johnson & Son, Inc.*, 16 USPQ2d. 1923 (Fed. Cir. 1990), *In re Antonie*, 195, USPQ 6 (CCPA 1977), *In re Estes*, 164 USPQ 519 (CCPA 1970), and *In re Papesch*, 137 USPQ 43 (CCPA 1963).

No property can be ignored in determining patentability and comparing the claimed invention to the cited art. Along these lines, see *In re Papesch*, supra, *In re Burt et al*, 148 USPQ 548 (CCPA 1966), *In re Ward*, 141 USPQ 227 (CCPA 1964), and *In re Cescon*, 177 USPQ 264 (CCPA 1973).

In view of the above, consideration and allowance are respectfully solicited.

In the event the Examiner believes an interview might serve in any way to advance the prosecution of this application, the undersigned is available at the telephone number noted below.

The Office is authorized to charge any necessary fees due with this paper to Deposit Account No. 22-0185, under Order No. 21581-00476-US from which the undersigned is authorized to draw.

Dated: April 2, 2010

Respectfully submitted,

Electronic signature: /Burton A. Amernick/
Burton A. Amernick
Registration No.: 24,852
CONNOLLY BOVE LODGE & HUTZ LLP
1875 Eye Street, NW
Suite 1100
Washington, DC 20006
(202) 331-7111
(202) 293-6229 (Fax)
Attorney for Assignee